

**Commonwealth of Kentucky**  
**Division for Air Quality**  
**PERMIT STATEMENT OF BASIS**

Title V draft permit, No. V-97-025  
**KENTUCKY UTILITIES COMPANY - GHENT GENERATING STATION**  
Ghent, Kentucky 41045  
May 12, 2000  
Completed by: Christina A. Forgacs

**SOURCE DESCRIPTION, CONTROL EQUIPMENTS & CONSTRUCTION DATE:**

- E. Unit 01: Unit 01: Pulverized coal-fired, dry bottom, tangentially-fired unit equipped with an electrostatic precipitator, wet limestone forced-oxidation sulfur dioxide scrubber, and low nitrogen oxides burner(s); construction commenced prior to August 17, 1971.
- E. Unit 02: Unit 02: Pulverized coal-fired, dry bottom, tangentially-fired unit equipped with electrostatic precipitator and low nitrogen oxides burner(s); construction commenced prior to September 18, 1978.
- E. Unit 03: Unit 03: Pulverized coal-fired, dry bottom, wall-fired unit equipped with an electrostatic precipitator and low nitrogen oxides burner(s) with overfire air; construction commenced prior to September 18, 1978.
- E. Unit 04: Unit 04: Pulverized coal-fired, dry bottom, wall-fired unit equipped with an electrostatic precipitator and low nitrogen oxides burner(s) with overfire air; construction commenced prior to September 18, 1978.
- E. Unit 05-01: Unit 05-01: Coal operations includes barge unloading operations equipped with enclosure; construction commenced by November 15, 1973. (Barge unloader is not defined as an affected facility under Subpart Y and operating permit for this unit issued November 15, 1973.)
- E. Unit 05-02: Unit 05-02: Limestone barge unloading operations equipped with enclosure; construction commenced by 1992. (The barge unloader does not meet the definition of an affected facility under Subpart OOO.) The unloading by barge occurs at unit 5 for either coal or limestone.
- E. Unit 06: Unit 06: Coal crushing operations includes crusher house #1 and three surge bins, equipped with enclosure and a baghouse; construction commenced before October 24, 1974.
- E. Unit 07: Unit 07: Coal handling operations includes conveying and stockpile operations, includes conveyors 1D, 1E, 1F, 1J, 1G, 1H, and transfer points, and two stockpiles, equipped with enclosure, surfactant, and wet suppression; construction commenced before October 24, 1974.
- E. Unit 08-01: Unit 08-01: Coal conveying and handling operations includes conveyors 1A, 1B, 1C, and transfer points, equipped with enclosure; construction commenced before October 24, 1974.
- E. Unit 08-02: Unit 08-02: Limestone handling and processing operations includes conveyors 1A, 1B, 1C, and transfer points, equipped with fabric filter; construction commenced 1992.
- E. Unit 09-01: Unit 09-01: Coal conveying and handling operations includes conveyor 2H and transfer points, equipped with enclosure; construction commenced by 1992.
- E. Unit 09-02: Unit 09-02: Limestone handling and processing includes conveyor 2H and transfer points, equipped with fabric filter; construction commenced by 1992.

- E. Unit 10-01: Unit 10-01: Coal conveying and handling operations includes conveyor 6H and transfer points, equipped with enclosure; construction commenced by 1992.
- E. Unit 10-02: Unit 10-02: Limestone handling and processing includes conveyor 6H and transfer points, equipped with fabric filter; construction commenced by 1992.
- E. Unit 11: Units 11: Coal handling and conveying includes crusher house #2, conveyors 2J, 3J, 4J, 3M, 4M, 2G, 5G, 6G, 7G, 8G, 3H, 4H, 5H, coal silo, 3G, 4G, and transfer points, equipped with enclosure; construction commenced by 1985.
- E. Unit 12: Unit 12: Limestone handling and processing includes conveyor BF1 and transfer points, equipped with fabric filter; construction commenced by 1992.
- E. Unit 13: Unit 13: Limestone crushing and processing includes hammermill crushing operation (one crusher), equipped with a fabric filter; construction commenced by 1992.
- E. Unit 14: Unit 14: Limestone handling and conveying, conveyor L1, and transfer points equipped with a fabric filter; construction commenced by 1992.
- E. Unit 15: Unit 15: Limestone handling day silo, includes limestone day silo receiving and processing, equipped with fabric filter; construction commenced by 1992.
- E. Unit 16: Unit 16: Limestone secondary crushing operations, includes two ball mills for secondary crushing, equipped with enclosure; construction commenced by 1992.
- E. Unit 17: Unit 17: Limestone handling stockpile operations, includes one stockpile, equipped with wet suppression system; construction commenced by 1992. (The open stockpile does not meet the definition of an affected facility under Subpart OOO because it is an open storage pile.)
- E. Unit 20: Unit 20: Dry flyash handling and collection system, with a flyash silo, equipped with a pulse jet fabric filter dust collector; construction commenced by 1981.
- E. Unit 22: Unit 22: Four cooling towers; construction commenced prior to 1992.

REGULATION APPLICABILITY:

All the applicable regulations to the emission units are listed in the permit. The following regulations are not applicable based on the applicability date of regulation, unit size, and/or definition of an affected facility per the regulation:

Regulations not applicable to Unit 1 due to applicability date or size of unit:

Regulation 401 KAR 59:015, New indirect heat exchangers, incorporating by reference 40 CFR 60, Subpart D

Regulation 401 KAR 59:016, New electric utility steam generating units, incorporating by reference 40 CFR 60, Subpart Da

Regulation 401 KAR 60:042, Standards of performance for industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR 60, Subpart Db

Regulation 401 KAR 60:043, Standards of performance for small industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR 60, Subpart Dc

Regulations not applicable to Unit 2 due to applicability date or size of unit:

Regulation 401 KAR 59:016, New electric utility steam generating units, incorporating by reference 40 CFR 60, Subpart Da

Regulation 401 KAR 60:042, Standards of performance for industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR 60, Subpart Db

Regulation 401 KAR 60:043, Standards of performance for small industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR 60, Subpart Dc

Regulations not applicable to Units 3 and 4 due to applicability date or size of unit:

Regulation 401 KAR 59:016, New electric utility steam generating units, incorporating by reference 40 CFR 60, Subpart Da

Regulation 401 KAR 60:042, Standards of performance for industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR 60, Subpart Db

Regulation 401 KAR 60:043, Standards of performance for small industrial-commercial-institutional steam generating units, incorporating by reference 40 CFR 60, Subpart Dc

Regulation not applicable to Unit 05-01 (Coal receiving operations) due to definition of affected facility and applicability date:

Regulation 401 KAR 60:250, Standards of performance for coal preparation plants, adopting by reference 40 CFR 60, Subpart Y. (Barge unloading operations, by definition, these do not convey coal or remove coal from machinery to reduce the size of coal nor do these separate coal from refuse; does not meet definition of coal storage system under Subpart Y)

Regulation not applicable to Unit 05-02 (Limestone handling and receiving), barge unloading operations for limestone, due to definition of affected facility:

Regulation 401 KAR 59:310, New nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 2 of Regulation 401 KAR 59:310), because the barge unloader does not meet the definition of an affected facility.

Unit 06 (Coal crushing operations crusher #1) or Unit 07 (Coal handling stockpile and conveying) or Unit 08-01 (Coal conveying and handling, conveyors 1A, 1B, 1C and transfer points) due to applicability date:

Regulation 401 KAR 60:250, Standards of performance for coal preparation plants, adopting by reference 40 CFR 60, Subpart Y, because commenced construction before October 24, 1974.

Regulation not applicable to Units 17 (Limestone handling stockpile operations) due to definition of an affected facility:

Regulation 401 KAR 59:310, New nonmetallic mineral processing plants (40 CFR 60, Subpart OOO as modified by Section 2 of Regulation 401 KAR 59:310), because the open stockpile operations do not meet the definition of an affected facility.

COMMENTS:

- The permittee must comply with the Acid Rain Permit, Number AR-96-14 issued December 11, 1996.
- The permittee has not proposed any alternate operating scenario for the emissions units.
- Unit 1 boiler has Continuous Emission Monitors for sulfur dioxide, and opacity which may be used to assure compliance. The permittee will be required to conduct one performance test for particulate emissions in the first six months after permit issuance to demonstrate compliance with the allowable standard and to develop the indicator range/upper limit for opacity. The permittee may assure continuing compliance with the particulate standard using continuous opacity monitoring (COM) data as an indicator as described in the permit. If no other performance tests for particulates are performed, then a second performance test for the boiler will be required in the third year of the permit.
- Units 2, 3, and 4 boilers have Continuous Emission Monitors for sulfur dioxide, nitrogen oxides, and opacity which may be used to assure compliance. The permittee will be required to conduct one performance test for particulate emissions for units 2, 3, and 4 in the first six months after permit issuance to demonstrate compliance with the allowable standard and to develop the indicator range/upper limit for opacity. The permittee may assure continuing compliance with the particulate standard using COM data as an indicator as described in the permit. If no other performance tests for particulates are performed, then a second performance test for each boiler will be required in the third year of the permit.
- For Units 1, 2, 3, and 4, the three hour averaging time associated with the particulate standard is applicable during compliance demonstration through performance testing when testing is required by the Division.
- Unit 05-01, Unit 05-02, Unit 07, Unit 08-01, Unit 17, and Unit 22 subject to fugitive emissions Regulation 401 KAR 63:010 and are considered to be in compliance when using control measures required by the regulation.
- Units involving coal or limestone or ash handling not mentioned in the line directly above have a periodic monitoring requirement to conduct weekly inspections of control equipment, making repairs and corrections as needed, and annual Method 9 opacity testing as appropriate to assure compliance. Proper operation of the control equipment can be assured by weekly qualitative observation of emissions. If visible emissions during visual observations are perceived or believed to exceed the applicable standard, the permittee shall determine the opacity where appropriate and instigate an inspection of the control equipment for any necessary repairs.

COMMENTS CONTINUED:

- Emissions Units 06 and 20 are subject to Regulations 401 KAR 61:020 and 401 KAR 59:010, respectively. The three hour averaging time associated with the particulate standard is applicable during compliance demonstration through performance testing if a test is required by the Division. For these units the permittee may assure compliance with the particulate mass and opacity standards by assuring proper operation of the baghouses. Proper operation of the baghouses can be assured by weekly qualitative observation of stack emissions. If visible emissions from any stack during visual observations are perceived or believed to exceed the applicable standard, the permittee shall determine opacity of emissions by Reference Method 9 and instigate an inspection of the control equipment for any necessary repairs.
- The permittee shall submit a compliance assurance monitoring (CAM) plan for applicable emissions units with an application for significant revision or with the application for the Title V permit renewal.